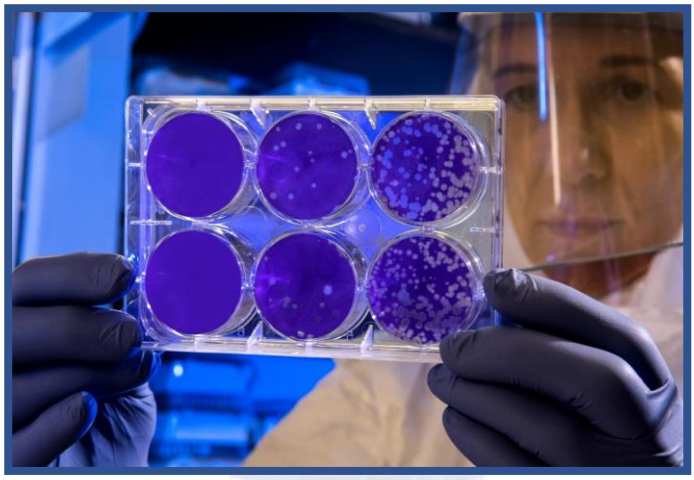
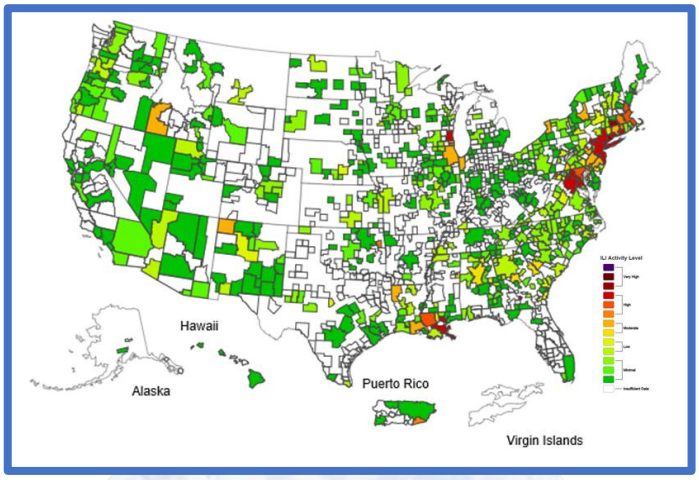




INFLUENZA DIVISION STRATEGIC PRIORITIES 2020-2021

Improving global control, prevention, preparedness, and response to influenza

National Center for Immunization and Respiratory Diseases
Influenza Division

OVERVIEW

The following summarizes the mission, vision, and priorities determined by the Influenza Division during its Strategic Planning Process.

Mission

CDC's Influenza Division (ID) advances global ***control*** and ***prevention*** of seasonal and novel influenza and improves influenza pandemic ***preparedness*** and ***response***

Vision

Builds **surveillance** and **response** capacity

Monitors and assesses influenza **viruses** and **illness**

Improves **vaccines** and other **interventions**

Applies research to enhance **prevention** and **control** policies and programs

Priorities

- Improve vaccine impact
- Improve influenza detection and control
- Improve epidemic and pandemic risk assessment and readiness

Each year in the United States, seasonal influenza outbreaks result in millions of illnesses, hundreds of thousands of hospitalizations, and tens of thousands of deaths. Influenza pandemics occur less frequently, but when they do their impact can be devastating. Influenza viruses undergo constant change and preventing and responding to influenza threats requires continuous vigilance and innovation. CDC's Influenza Division provides scientific and programmatic leadership for the detection, prevention, and control of influenza domestically and internationally. The following document provides an overview of the Influenza Division's strategic priorities to continue to improve vaccine impact, influenza detection and control, and epidemic and pandemic risk assessment and readiness for 2020-2021.

STRATEGIC PRIORITY 1:
IMPROVE VACCINE IMPACT

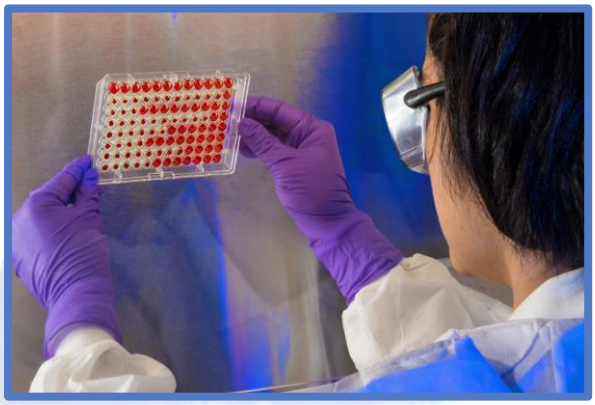
*The following lists the **objectives** and **activities** associated with increasing vaccine effectiveness and vaccine uptake.*

1 EXPAND VIRUS CHARACTERIZATION AND INCREASE CAPACITY OF CDC LABORATORIES TO SUPPORT MANUFACTURERS OF VACCINE

- Expand CDC influenza laboratory capacity to develop and evaluate additional candidate vaccine viruses for both existing vaccine platforms and vaccine technologies under development
- Produce viruses, reagents and characterization assays needed to develop and evaluate more broadly-protective and longer-lasting vaccines
- Increase capacity to fulfill new CDC mandate for developing and providing tools and reagents for potency testing of U.S. and globally manufactured vaccines
- Evaluate strategies for improving yield of vaccine production
- Improve genomic prediction by moving from virus tracking to fitness forecasting
- Build on lessons learned from the COVID-19 vaccine response to improve influenza vaccine

2 IMPROVE COMMUNICATION TO INCREASE VACCINATION

- Expand focus group and consumer testing to identify relevant messaging to persons with low vaccination rates
- Reduce vaccination disparities in African American and Hispanic populations through focused communication and promotion efforts
- Improve translation of scientific works to plain language to communicate benefits of vaccination for prevention of both influenza and secondary outcomes from underlying conditions



3 ENHANCE EVALUATION OF VACCINE EFFECTIVENESS

- Expand existing networks to study vaccine effectiveness in inpatient and outpatient settings to include more participants from more areas
- Explore alternative approaches for monitoring vaccine effectiveness
- Increase capacity and develop techniques to more completely and routinely evaluate cellular and antibody immune response to vaccination or infection
- Conduct targeted evaluations to determine vaccine effectiveness and strengthen the evidence base for influenza vaccination
- Build on new capabilities for vaccine effectiveness monitoring from joint influenza and COVID-19 activities

STRATEGIC PRIORITY 2:
IMPROVE INFLUENZA DETECTION & CONTROL

*The following explains the **objectives** and **activities** associated with strengthening surveillance, treatment and mitigation efforts to improve influenza detection and control.*

1 IMPROVE DATA COLLECTION, INTEGRATION, AND ANALYSIS

- Explore alternative sources of data to increase timeliness and granularity of surveillance
- Implement a shared Division data platform to allow for integration of Division data and more complex analysis with other data sources
- Explore and assess "layered evaluation" of multiple surveillance systems to improve synchronization of data for improved regional flu surveillance, research epi, and virologic data.
- Coordinate collection and reporting of SARS-CoV-2 infections with influenza data

2 IMPROVE USE OF GENOMIC SEQUENCING

- Implement final phase of Division's sequencing first "SeqFirst" strategy
- Develop plans for appropriate and sustainable genomic sequencing
- Expand mobile next-generation sequencing (NGS)
- Establish international sites to determine if NGS of large number of specimens from one location would help identify variants earlier

3 RESHAPE GLOBAL SURVEILLANCE TO IMPROVE REPRESENTIVENESS AND TIMELINESS OF INFLUENZA DATA

- Develop a 5-year plan for optimizing international surveillance by focusing enhanced surveillance in strategic locations
- Coordinate efforts with CDC's emerging regional approach to global health; identify collaborations with other operating divisions, including strategic planning for global SARS-CoV-2 surveillance
- Support global surveillance activities by enhancing the Global Influenza Surveillance and Response System

4 UPDATE INFLUENZA DIAGNOSTICS

- Develop a multi-plex PCR diagnostic assay for subtyping flu at public health laboratories and globally
- Explore use of new technologies (e.g. CRISPR) for improving influenza diagnosis and evaluation
- Develop and deploy mobile PCR diagnostic capabilities for rapid determination of emerging influenza viruses in resource-limited settings
- Deploy new multiplex influenza-SARS-CoV-2 PCR diagnostic assay for use at public health laboratories
- Coordinate efficient use of influenza and SARS-CoV-2 diagnostics for clinicians and healthcare facilities

5 IMPROVE CONTROL OF INFLUENZA

- Enhance use of antiviral medication, including new indications for baloxavir
- Communicate new findings which demonstrate improved outcomes for vaccinated persons with underlying conditions
- Evaluate impact of COVID-19 mitigation strategies on transmission of influenza

STRATEGIC PRIORITY 3:
IMPROVE EPIDEMIC AND PANDEMIC RISK ASSESSMENT AND READINESS

*The following explains the **objectives** and **activities** associated with developing innovative programs, models and tools to improve epidemic and pandemic risk assessment and readiness.*

1 IMPROVE GLOBAL VACCINE INTRODUCTION

- Develop the evidence base for meeting requirements for the Gavi Vaccine Alliance's Vaccine Investment Strategy (VIS) for introduction of seasonal influenza vaccine for pandemic preparedness and response
- Expand efforts to improve introduction and maintenance of vaccines in low- and middle-income countries

2 IDENTIFY AND IMPLEMENT NEW WAYS TO FORECAST DISEASE AND MODEL MITIGATION AND PREVENTION

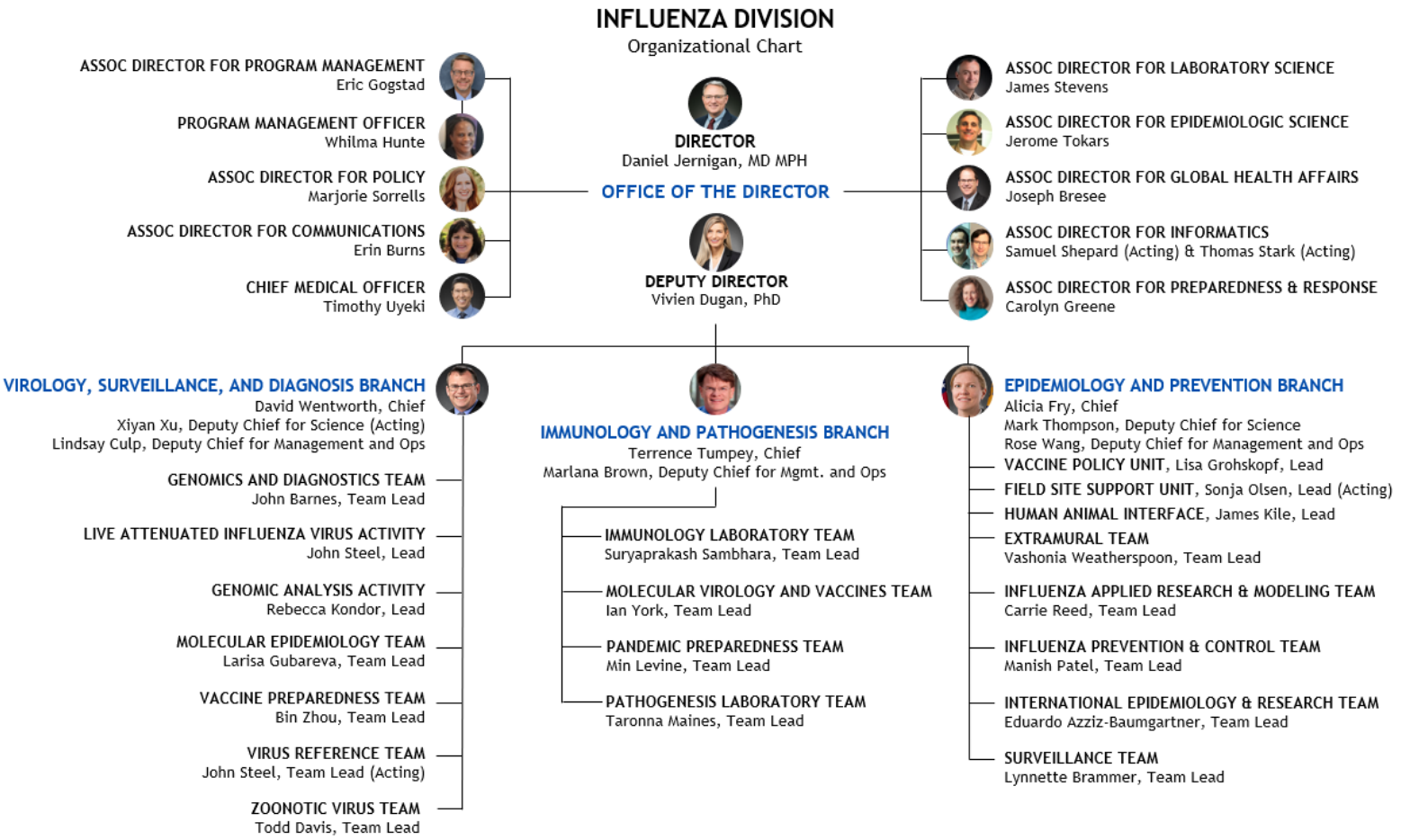
- Develop innovative models and methods for timely and accurate forecasts and visualization of forecasting for influenza
- Support FluSight and related disease-forecasting efforts
- Establish a network of modeling centers to develop innovative models and methods

3 IMPROVE UNDERSTANDING OF TRANSMISSION DYNAMICS AND DISEASE RISK OF INFLUENZA VIRUSES OF PANDEMIC POTENTIAL

- Enhance laboratory studies for risk assessment, including improved animal transmission and pathogenicity studies for rapid assessment
- Assess and transform the Division's current approach to monitoring for emerging influenza viruses with pandemic potential to improve influenza risk assessment

4 SUPPORT DOMESTIC AND INTERNATIONAL PANDEMIC PLANNING AND INFRASTRUCTURE DEVELOPMENT

- Develop models and tools for informing decision-making during pandemic responses based on lessons learned from COVID-19
- Improve speed of development of candidate vaccine viruses for pandemic readiness
- Develop contract and cooperative agreement mechanisms for rapid implementation of response activities and research in a pandemic
- Establish best approach for supporting the Global Influenza Surveillance and Response System in partnership with global public health organizations.



INFLUENZA DIVISION BY THE NUMBERS, 2020

- **326** people supporting the Division
- **220+** Influenza Division authored publications
- **550+** influenza-related calls and emails to CDC INFO answered
- **2,500+** web pages and posted documents providing information for clinicians, businesses, public health partners and the public
- **3,100+** healthcare providers around the country reporting data to CDC weekly on the total number of patients with influenza-like-illness
- **42** countries supported with bilateral cooperative agreements for influenza surveillance
- **1,000,000+** patient specimens tested each year in clinical labs participating in CDC domestic disease surveillance
- **UP TO 50** viruses prepared for possible use in vaccine production annually
- **3,500,000** COVID-19 tests made possible through the Influenza Division's International Reagent Resource

CONTACT INFORMATION

- www.cdc.gov/flu
- www.cdc.gov/ncird/flu
- 1-800-CDC-INFO (800-232-4636)
- Email CDC INFO: https://wwwn.cdc.gov/dcs/ContactUs/Form